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FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

In the Matter of

Implementation of Section 17 of the Cable
Television Consumer Protection and
Competition Act of 1992

Compatibility Between Cable Systems and
Consumer Electronics Equipment

)
)
) ET Docket No. 93-7
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)
)

**COMMENTS OF
MULTICHANNEL COMMUNICATION SCIENCES, INC.**

March 22, 1993

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SUMMARY

Following a short review of the consumer electronics equipment compatibility problem, MCSI submits that while the Commission has the authority and duty to craft specific long term technical and operational regulations for assuring the compatibility goals of Section 17 of the Cable Act, it has essentially only one tangible appropriate course of action that squarely addresses the compatibility issue in the near term, and that is to use incentive based Cable Rate regulations in order to encourage cable operators and their equipment suppliers to invest in technologies that solve the compatibility problem. Therefore, MCSI has filed comments to that effect in an earlier proceeding on rate regulation. In particular, MCSI submits that in adopting cable rate regulations, the Commission should distinguish between separate general categories of cable service. A separate category for Simultaneously Clear Addressable Tiered Services ("SCATS" defined in Section 3 herein), the provision of which solves fully the compatibility problem addressed in this NOI, should be established so as to account for its differing characteristics as compared to services requiring set top decoders. This will ensure that undue financial burdens are not imposed on cable operators that implement technological solutions such as addressable broadband descrambling in order to comply with Section 17 of the Cable Act and with the Tier Buy-Through Prohibition (Section 3) and other sections of the Cable Act, in a manner that minimizes costs to subscribers. MCSI further submits that mandatory provision of SCATS offering would not be

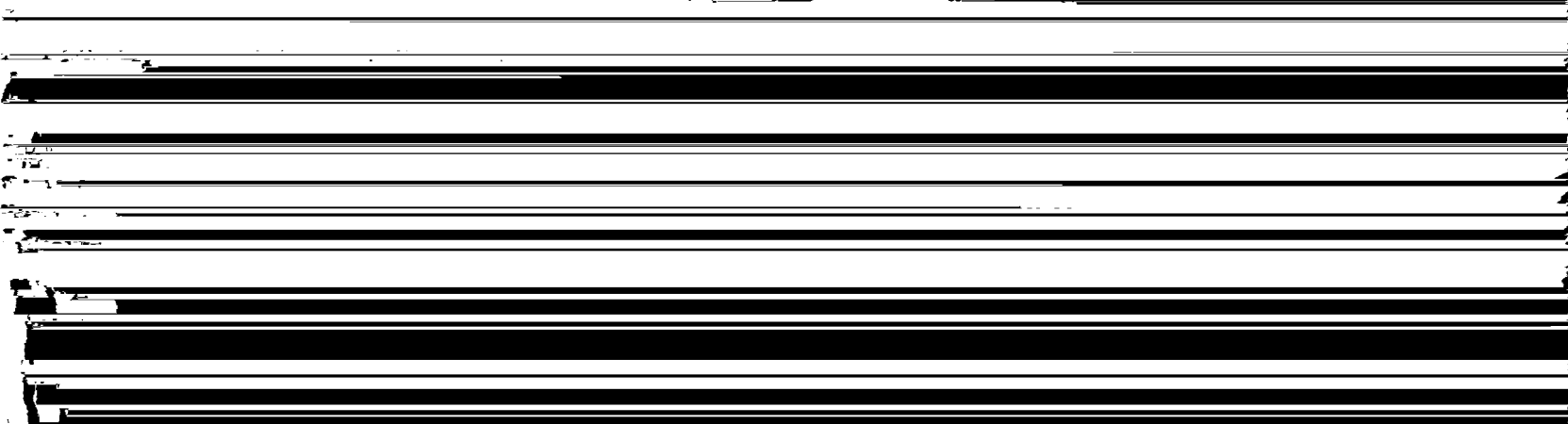


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MCSI has a strong interest in the Commission's implementation of the new cable law in






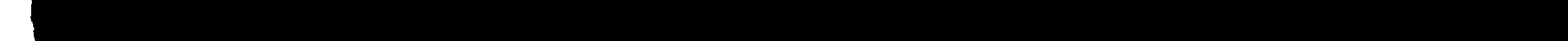



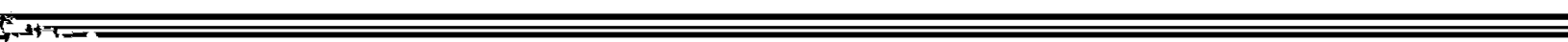

compatibility between consumer electronics equipment and cable systems. The Commission further seeks information and proposed regulatory frameworks to implement the provisions of Section 17 of the Cable Television Consumer Protection and Competition Act of 1992 ("Cable Act")².

Following a short review of the consumer electronics equipment compatibility problem, MCSI submits that while the Commission has the authority and duty to craft specific long term technical and operational regulations for assuring the compatibility goals of Section 17 of the Cable Act, it has essentially only one tangible appropriate course of action that squarely addresses the compatibility issue in the near term, and that is to use incentive based Cable Rate regulations in order to encourage cable operators and their equipment suppliers to invest in technologies that solve the compatibility problem. Therefore, MCSI has filed comments to that effect in an earlier proceeding on rate regulation³. In particular, MCSI submits that in adopting cable rate regulations, the Commission should distinguish between separate general categories of cable service. A separate category for Simultaneously Clear Addressable Tiered Services ("SCATS") should be established so as to account for its differing characteristics as compared to services requiring set top decoders. This will ensure that undue financial burdens are not imposed on cable operators that implement technological solutions such as addressable broadband descrambling in order to comply with Section 17 of the Cable Act and with the Tier Buy-Through Prohibition (Section 3) and other sections of the Cable Act, in a manner that minimizes costs to subscribers. MCSI further submits that mandatory provision of SCATS offering would not be in the public interest and thus the offering of SCATS by cable operators must be on a voluntary basis.

2 THE CONSUMER ELECTRONICS EQUIPMENT COMPATIBILITY PROBLEM AND POTENTIAL SOLUTIONS

subscribers and cable operators alike^{4,5,6,7,8,9,10}. The topic has been a subject of industry debates and local government hearings¹¹ before it became a national issue addressed by the Cable Act of 1992. The NOI provides a brief summary of this consumer electronics equipment cable interface problem¹².

By Section 17 of the Cable Act, Congress directs the Commission to work with the consumer electronics industry and the cable industry to find "means of assuring compatibility between televisions and video cassette recorders and cable systems, consistent with the need to prevent theft of cable service, so that cable subscribers will be able to enjoy the full benefit of both the programming available on cable systems and the functions available on their televisions and video cassette recorders". § 624(A)(b)(1). (emphasis supplied).



or degraded by the insertion of set-top descramblers, thus denying cable subscribers the full benefit of both the programming available on their cable systems and the functions available on their televisions and VCRs:

- When a television set or a VCR is connected to the output of a cable set-top descrambler/converter, it must be constantly tuned to Channel 3 (or 4), so that none of its built-in channel tuning functions can be used by the subscriber¹³. These tuning functions may include the use of a remote control that was purchased with the set, programming and selecting favorite channels or using the "last channel recall" feature, etc.
- In an attempt to regain the convenience lost by incapacitating the television set's remote control, some cable set-top converters are provided with a switched convenience power outlet on the back so that by plugging in the TV or VCR in the back of the cable box allows turning on the TV or VCR by turning on the cable box. Most new TV's and VCR's have a single ON/OFF light-touch button requiring the line cord to be powered. Therefore, these sets will not come on when repowered and the switched convenience outlet on the back of the set-top box becomes useless. Moreover, the latest TV's and VCR's go through an automatic channel set-up procedure when powered up at the line cord and first turned on. This turn-on process takes several minutes to complete, thereby rendering the use of switched convenience outlet a major inconvenience.
- Some baseband converter-descramblers cannot pass the composite MTS audio program material including the television stereo BTSC signal and thus the stereo signal and the Second Audio Program ("SAP") are lost despite the fact the television set may be capable of receiving such MTS signals. Recent baseband converters address this problem by a stereo bypass operating mode which unfortunately disables the remote volume control of the converter, or alternatively by dematrixing and reprocessing the stereo signal at the converter in order to effect volume control with resultant degradation of stereo separation and compander performance. Even if the cable box has a volume control feature, the

13. It is somewhat ironic that in footnote 14 of the NOI, the Commission's general reference to "...redundant and incapacitated consumer electronics equipment.." in this instance means a television set with incapacitated tuning feature wherein the "redundancy" in this case is in a channel tuning capability without which no television receiver can be sold according to the Commission's rules.

TV's volume must be properly set to avoid noisy audio or loss of stereo separation, a complication most subscribers do not understand or quickly forget. Some RF sync suppression descramblers tend to introduce MTS audio performance degradations since they pass the audio subcarrier with additional amplitude modulation at the horizontal and vertical line rate thereby causing AM to FM conversion effects at the television receiver. These audio degrading effects often introduce audible levels of "buzz"¹⁴.

- While not directly a "compatibility" issue, virtually all types of sync suppression scrambling systems blank an additional 1.0 to 1.5 microsecond of the active video time thereby cropping out a total of some 2.8% of the television picture at the left and right edges. This degradation may frustrate wide-screen telecasts that seek to faithfully reproduce a theatrical screen aspect ratio.

In discussing solutions to the foregoing problems, we examine two different time frames the Commission must address. These are the short to mid term period in which cable systems will use predominantly existing analog television transmission systems, and the long term period, in which digital television transmissions may provide an augmentation to the analog service. Although the legislative history indicates that Congress recognized that in general, the burden of assuring the compatibility must be carried by both the consumer electronics manufacturers as well as the cable operators¹⁵, it appears that in the short to mid term time frame, very little can be done by the consumer electronics industry in order to substantially increase compatibility between the installed base of consumer electronics equipment and cable systems.

2.1 Solutions for the Short to Mid Term Time Frame

Unfortunately, the relief Congress intended for cable subscribers using the existing installed base of some 200 million TV sets and 80 million VCRs, can only come in significant ways from cable operators' actions and capital investments in technological solutions which

14. "Operational Characteristics of Modern Set-Top Terminals" by Jim O. Farmer, *IEEE Transactions on Consumer Electronics*, Vol. CE-30, pages 489-502, August 1984.

15. The House report states that "The Committee notes that responsibility for compatibility problems does not rest on any single industry and that the ultimate solution of this issue requires cooperation between the cable industry and the consumer electronics industry". See House Report 102-628, 102d Congress, 2d Session, in *Section-by-Section Analysis, SECTION 9. CONSUMER ELECTRONICS EQUIPMENT COMPATIBILITY*.

address the compatibility problem. MCSI believes that cable operators are entitled to a fair return on such capital investments.

2.1.1 There Exists a Clear Congressional Intent and Mandate to Provide Compatibility Relief to Cable Subscribers Using Existing Installed Base of Consumer Electronics Equipment

Although one might entertain a lighter burden of assuring compatibility between cable systems and only new types of consumer electronics equipment with as yet to be determined decoder interface, the legislative record is replete with evidence that Congress intended that a substantive solution be found for compatibility problems with existing installed base of consumer electronics equipment as well as new sets. In somewhat unusual and explicit "engineering" statutes within Section 17 of the Cable Act, Congress seeks partial solutions to the compatibility problem of the installed consumer electronics equipment base in the only way it knows how: Section 624A(c) provided that the equipment compatibility regulations prescribed under Section 624A within 18 months from the date of enactment shall include requirements that cable operators offering channels whose reception requires a converter unit, to the extent technically and economically feasible, offer subscribers the option of having all other channels delivered directly to the subscribers' TV receivers or VCR's without passing through the converter unit - §624(A)(c)(2)(B). Similarly, in Sections 624A(c)(2)(C)-(E) Congress further provided immediate relief for subscribers using existing consumer electronics remote control units. Indeed, Section 624A(b)(1) generally provides that the Commission shall issue regulations as are necessary to assure the "... compatibility between televisions and video cassette recorders and cable systems.." and not between new televisions and new video cassette recorders and cable systems.

2.1.2 Full Compatibility for Existing Installed Consumer Electronics Equipment May Come only by the Provisioning of All Authorized Signals at the Subscriber Terminal Simultaneously in the Clear.

With respect to the installed base of consumer electronics equipment used by cable subscribers, it can be readily shown that any solution to all aspects of the compatibility problem can only come from signal provisioning in which all authorized channels are presented simultaneously in the clear on their respective channels at the subscriber receiver terminals. This is because scrambled signals cannot be received by TV's and VCR's. Hence, the "converter bypass" solution Congress seeks in Section 624(A)(c)(2)(B) can only provide partial relief, as it does not solve the compatibility problem in cases where scrambled signals are delivered to the subscriber terminal. In this regard, we submit that voluntary bypass approaches by cable

operators should be encouraged but the Commission cannot find that it is technically feasible or economical to mandate a "bypass" option offering by cable operators since offering a bypass via a frequency selective diplexer would limit the operator's channel assignment flexibility and future growth potential. Alternatively, the mandatory use of A/B switches to effect such a bypass cannot be imposed at this time when Congress has just made a determination "...that the technical and economic complexities involved with the A/B switch make it an unworkable solution..."¹⁶ for providing mandatory means of switching between two signal sources.¹⁷ Accordingly, it is difficult to imagine how the Commission might find that it has the authority to impose mandatory reliance on A/B switches between two cable signal sources when it is expressly prohibited from doing so if one of these sources happens to be a broadcast signal from an off-air antenna.

The provision of simultaneously clear video programming cable signals to subscribers might be achieved by the use of traps, Interdiction or Broadband Descrambling. While the use of traps limits the operator in channel numbers and their position, thereby severely limiting the operators flexibility, addressable Interdiction and Addressable Broadband Descrambling provide greater flexibility and number of controlled channels. Interdiction, however, requires that all

hardware has been available for some time¹⁸, MCSI's Broadband Access Control technology featuring Broadband Descrambling is scheduled to become available in volume production in the second half of 1994.

2.1.3 Action by the Commission

In regards to the installed base of consumer electronics equipment, the Commission cannot impose on cable operators all the burden of improving the compatibility because these costs will quickly shift to consumers. The Commission is left with very little choice in fully discharging its obligations under Section 17 of the Cable Act but to use the rate regulation tools afforded to it by Congress to provide incentives to cable operators that adopt cost effective technological solutions to the compatibility problem. Thus the Commission has essentially only one tangible appropriate course of action that squarely addresses the compatibility issue in the near term and that action is to provide rate regulation incentives for voluntary adoption by operators of technologies of their choice that meet certain criteria in providing SCATS as discussed below. Because MCSI believes that rate regulation incentives are to be a cornerstone of the Commission's action in this matter for the installed consumer electronics equipment base, we include here for completeness MCSI's arguments in the rate regulation proceeding on which the Commission is expected to act next month.

2.2 Solutions for the Long Term Time Frame

These solutions involve the establishment of standards for digital interfaces for television sets and VCR's. MCSI shall have an occasion to comment on such topics when the Commission adopts appropriate rulemaking proceedings.

3 DEFINITIONS

By way of background, the following terms are relevant to MCSI's technology and are used herein in connection with MCSI's discussion in this proceeding:

- (a) **Addressable Broadband Descrambler** means a device installed at a subscriber location (either off premises, at a point of entry, or indoors) which can be controlled from the cable headend to simultaneously descramble and provide in the clear all cable television services which the subscriber purchased.

18. We note the recent acquisition by Cablevision Systems Corp. of Interdiction hardware to be deployed in 40 cable systems this year. See "Cablevision Opts for Interdiction" by Gary Kim, *Multichannel News*, February 8, 1993; page 2.

- (b) **Addressable Broadband Denial** means the capability within a device installed at a subscriber location (either off premises or at a point of entry) which can be controlled from the cable headend to deny selected channels (otherwise transmitted in the clear on the cable system) from being received by subscribers who did not purchase the services on these channels. Such denial may be effected at the subscriber location by channel specific local scrambling or jamming (interdiction), or by dedicated addressable traps.
- (c) **Simultaneously Clear Addressable Video Programming Services** means Video Programming Services in which all video channels carrying services that the subscriber purchased are simultaneously available to the subscriber in the clear on an addressable basis. That is, in a manner that allows direct connections to TV sets and VCRs without a decoder or descrambler, thereby allowing the subscriber to use all the features and functions that were purchased with his/her consumer electronics equipment. The addressable nature of these services should allow service tier unbundling. The term Video Programming Services means any video programming regardless of service tier including, as defined by the Cable Act, the Basic Service Tier, Cable Programming Services ("Expanded basic" or "Standard" tiers) and video programming offered on a per channel ("Pay") or per program basis ("Pay-Per-View"). Simultaneously Clear Addressable Video Programming Services may be provided by cable operators who employ addressable broadband descrambling and/or denial, addressable interdiction or addressable traps.
- (c) **Simultaneously Clear Addressable Tiered Services**. A programming service tier is defined as *Simultaneously Clear Addressable Tiered Service* ("SCATS") if all video channels contained therein are provided simultaneously in the clear (in unscrambled form) to subscribers thereto, except that no buy-through of SCATS shall be required in order to purchase any other programming service tier.

The terms defined above are used in conjunction with MCSI's central arguments presented below.

4 THE COMMISSION MUST ESTABLISH HIGHER THAN AVERAGE RATE BENCHMARKS FOR VOLUNTARY "SIMULTANEOUSLY CLEAR ADDRESSABLE TIERED SERVICES".

To fulfill the requirements of the Cable Act to establish regulations governing rates of the Basic Service Tier and of Cable Programming Services, the Commission tentatively concludes in its Rate Regulation Notice of Proposed Rulemaking¹⁹ ("NPRM") that it shall set up criteria or benchmarks for cable service rates based on various factors.²⁰ The NPRM describes a benchmark rate as a price against which a given cable system's Basic Service Tier rate or Cable Programming Service rate would be compared. The benchmark would permit identification of systems with presumptively unreasonable rates, while establishing a zone of reasonableness for systems with rates below the benchmark.

MCSI believes that in establishing such benchmarks, the Commission should distinguish between separate general categories of cable service. A separate category for Simultaneously Clear Addressable Tiered Services should be established so as to account for its differing characteristics as compared to services requiring set top decoders. We believe that a separate benchmark should be established for cable systems offering such services in order to reflect their higher value to the subscriber as shown below and in order to facilitate the imperatives of other sections of the Cable Act as enumerated below. The technology difference characterizing the provision of Simultaneously Clear Addressable Video Programming Services and the financial ramifications for cable systems that offer them should be one of the critical factors used by the Commission in establishing rate benchmarks. We address this topic in the following sections.

4.1 Simultaneously Clear Addressable Tiered Services are not "like" Video Programming Services with decoder devices.

Assuming an identical programming offering of video services provided over two separate cable systems that differ only in the manner in which these video services are provided, the subscriber will experience a marked difference between service requiring a set-top decoder and

19. *In the Matter of Implementation of the Cable Television Consumer Protection and Competition Act of 1992, Rate Regulation*, MM Docket No. 92-266

20. See NPRM at paras. 30,34,90,91.

that offered by Simultaneously Clear Addressable Services. This result is because unlike services provided through a "one channel at-a-time" decoder/converter, the subscriber receiving

To the extent the Commission intends to adopt Cost-of-Service rate criteria as an additional factor, the benchmark differences may also reflect any differences in cable operator's Simultaneously Clear Addressable equipment installation costs and other cost factors.

We submit that the public interest would be served by establishing separate rate benchmarks for this class of services and that it is critical that the Commission address this technology difference in crafting the rate benchmarks so that full achievement of the underlying purposes of the Cable Act's provisions enumerated below are not thwarted by onerous and inappropriate financial constraints on cable operators.

4.2 The Voluntary Provision of Simultaneously Clear Addressable Tiered Services is responsive to the Cable Act.

4.2.1 Consumer Electronics Equipment Compatibility [Section 17]

As discussed above, the Commission must recognize that a cable operator providing Cable Programming Services, Basic Tier Services and Pay or Pay-Per-View Services within Simultaneously Clear Addressable Tiered Services will most assuredly comply with the commands of Section 17 of the Cable Act. This is because all channels so provided to the subscriber are simultaneously in the clear, and therefore such cable service provides full compatibility with all "cable ready" consumer electronics equipment and their features and functions used by the subscriber.

As can be appreciated from the detail in Appendix A, as a special case of technologies that may assure such compatibility, MCSI's broadband access control technology will not only allow the simultaneous descrambling of the authorized Pay or Pay-Per-View tiers, but also allow a cable operator to provide Simultaneously Clear Cable Programming Services (Expanded Basic) in tiers situated above the Basic Service tier without having to employ scrambling on Expanded Basic channels at the head-end, which scrambling otherwise requires the majority of the cable system's subscribers to be equipped with an addressable decoder. As shown in the example of Figure 3 of Appendix A, this Expanded Basic tier access control is done by using the addressable local denial feature of the broadband descrambler on channels comprising the tier that the subscriber did not purchase. Because only a small minority of subscribers do not subscribe to such expanded basic tiers, installation of such broadband access control hardware will initially only be required for the subscriber set consisting of "Basic Only" subscribers and those subscribing to channels or tiers that are already provided in scrambled form on the system.

4.2.2 Tier Buy-Through Prohibition [Section 3(a)]

MCSI agrees with the Commission's conclusion in the Tier Buy-Through Prohibition proceedings stating that the goal of the Cable Act's buy-through prohibition is to foster the ability of subscribers to choose freely among available programming services.²² The Senate Committee Report states that "[t]hrough unbundling, subscribers have greater assurance that they are choosing only those program services they wish to see and are not paying for programs they do not desire." S. Rep. No. 102-92, 102d Cong., 2d. Sess. (1992) at 77. The Cable Act's goal of accomplishing the technical capability within cable systems to offer virtually unbundled programming services within 10 years²³ means that Congress intended for cable operators to invest incrementally in addressable technology (and thus inevitably pass associated incremental costs to subscribers) in order to arrive at full addressability. Hence, to the extent that Simultaneously Clear Tiered Services meeting Section 17 requirements are supplied via rigidly installed band traps that do not permit full unbundling, the provision of such programming services supplied by such non addressable technology may frustrate the Tier Buy-Through Prohibition provisions of Section 3(a) of the Cable Act. Therefore, such service provision that requires the tier to be bought-through in order to purchase any other tier or channel may not be entitled to higher (incentive based) rate benchmarks discussed below as would Simultaneously Clear Addressable Tiered Services.

4.2.3 Other Provisions of the Cable Act [Sections 4-6, 10(b),15]

There are additional provisions of the Cable Act that can be better implemented using the addressable technologies used in supplying Simultaneously Clear Addressable Tiered Services. These are related to added flexibility in accommodating the various channel carriage requirements of Sections 4,5,6 as well as the ability to provide for blockage of Indecent Programming on Leased Access Channels (Section 10(b)) and Premium Channel Previews (Section 15).

22. See Implementation of Section 3 of the Cable Television Consumer Protection and Competition Act of 1992 -- Tier Buy-Through Prohibition, MM Docket No. 92-262, Notice of Proposed Rule Making, FCC-92-540 (released Dec. 11, 1992), Para. 3.

23. §543(b)(8)(B)

4.3 Rate benchmarks that ignore Simultaneously Clear Addressable Tiered Service offering will discourage cable operators and equipment suppliers from investing in technologies that are responsive to subscribers' and Congress' demands.

As explained above, the offering of Simultaneously Clear Addressable Tiered Services meets a significant number of statutory requirements of the Cable Act while providing significant improvement in subscriber satisfaction as compared with services provided through the use of set-top decoders. In providing services under the set-top decoder regime, cable operators derive revenues from renting remote control devices and additional set-top decoders for additional outlets within the subscriber home²⁴. Cable operators that provide Simultaneously Clear Addressable Tiered Services allow their subscribers to use their own remote control devices with their consumer electronics equipment that may interface directly with the cable drop. Clearly, the remote control revenues these operators derive are virtually eliminated. Furthermore, when supplying Simultaneously Clear Tiered Services, no decoder devices are required and thus operators may choose to provide the signal to all cable outlets in the subscriber home without additional indoor equipment. This "whole house" service has recently been initiated by several operators.²⁵ However, this type of service requires the operator to abandon second outlet revenues.

The Commission must recognize the tension that exists between the goal of Section 17 of the Cable Act in fostering circumstances that are likely to eliminate or reduce cable operators' existing remote control and additional outlet revenue streams, and the goal of encouraging cable operators to make investments in technologies that adequately address the provisions of the Cable Act listed above. If the Commission's regulations do not reflect higher rate benchmarks for Simultaneously Clear Addressable Tiered Services as compared to services with set-top decoder devices, cable operators and equipment suppliers will be discouraged from investing and developing technologies that customers want and Congress called for. Under this rate regulation

24. Industry estimates peg the annual revenues on these items at approximately \$600 million. See Multichannel News, "\$600M in Revenue at Stake on 'Compatibility'" by Gary Kim, October 19, 1992 at 30.

25. See "Going Whole House" by Matt Stump, Cable World, April 27, 1992. at 1. See also "Chambers Gets Friendly with Cable-Ready Gear" by Barnett Parker, Cable World, August 28, 1989. at 20.

scenario, Cable operators that invested in technologies that provide Simultaneously Clear Addressable Tiered Services will be precluded from additional revenues other operators who use decoder technologies will continue to enjoy.

The Commission must ensure that there are reasonable financial incentives for cable operators that deploy technologies described above and therefore its regulations must incorporate some of these incentives and be coordinated with the policies sought to be achieved by other sections of the Cable Act and in particular by Section 17.

4.4 A proposed framework for Rate Benchmarks for Simultaneously Clear Addressable Tiered Services.

MCSI proposed a framework that the Commission could apply to establish the incremental service rate value above the average benchmarks²⁶. The framework is applied to the proposed benchmarks for the class of cable services provided as Simultaneously Clear Addressable Tiered Services. The proposal is based on a reasonable principle in determining the rate benchmark increments assigned to Simultaneously Clear Addressable Tiered Services above those of services offered through decoders is the quantity obtained by adequate compensation of potential lost revenues due to reduced rental income from remote controls and additional outlets. That is, that cable operators employing technologies offering Simultaneously Clear Addressable Tiered Services should be allowed to charge every subscriber receiving such services an increment related to the average revenues per subscriber that they would otherwise

provider, such as a DBS operator, that may have no choice but to use set-top decoders in providing his services²⁷.

4.5 The Commission has the duty and authority to establish a higher rate benchmark for voluntary offering of Simultaneously Clear Addressable Tiered Services.

The rate benchmark differentiation factors MCSI focuses on in these comments have not been directly mentioned or considered by the Commission in the NPRM. However, MCSI believes that upon further consideration of these comments and other comments in this proceeding and in view of the legislative history and Congress' intent, the Commission will recognize the opportunity to use judiciously the rate regulation instrument in crafting fair and equitable rate benchmarks that provide proper incentives to cable operators to deploy technologies that serve the public interest. MCSI believes that incentive based rate regulations are not foreign to the Commission and that there is a substantial record of their success²⁸.

The Cable Act directs the Commission by statute to consider six factors in regulating Cable Programming Services²⁹. It further affords the Commission the authority to consider other factors. In Paragraph 91 of the NPRM, the Commission inquires whether it should give the statutory factors enumerated in the Cable Act primary or greater weight than others. MCSI submits that the Commission has the duty and authority to give the considerations contained in these Comments no lesser weight than that given to the enumerated statutory factors. This is because the factors raised in these Comments are direct derivatives of other statutory provisions of Section 17 and Section 3 of the Cable Act and should thus command no lesser force. Furthermore, MCSI's specific proposal for establishing separate benchmark categories for certain types of Cable service is consistent with the statutory factors in this section, providing a separate category within which to consider the enumerated factors.

27. In this regard it is instructive to note that DirecTV, a future DBS operator, already recognizes the need to offer subscribers the ability to receive two channels simultaneously, and prepares optional special dual decoders for that purpose with a price tag increment of \$200 above a single channel decoder. (See Satellite Business News supplement, January 14, 1993). Although this dual decoder device does not provide full compatibility with consumer electronics equipment as Simultaneously Clear Addressable cable service would, this clearly demonstrates that some subscribers must be willing to value such feature at \$200.

28. See NPRM at footnote 64.

29. §623(c)(1)(A)

4.6 The commission need not arrive at a finding that technologies for voluntarily implementing SCATS are either available or cost-effective

The commission need not arrive at a finding that technologies for implementing SCATS are either available or cost-effective in order to proceed with the implementation of incremental benchmarks for the voluntary offering of SCATS. The existence of such incentives provides the best assurance for SCATS technologies to be perfected and brought to market.

4.7 The offering of SCATS by cable operators must be voluntary.

The offering of SCATS by cable operators must be voluntary. MCSI strongly believes that mandating the offering of SCATS would not be in the public interest.

CONCLUSION

For the foregoing reasons, MCSI respectfully recommends that the Commission adopt rules for the regulation of cable services and equipment consistent with the Comments herein in order to assure compatibility between cable systems and consumer electronics equipment.

Respectfully submitted,

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APPENDIX A

A NEW DESCRAMBLING TECHNOLOGY PROVIDING CATV SUBSCRIBERS WITH SIMULTANEOUSLY CLEAR MULTICHANNEL CABLE SERVICE

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1 INTRODUCTION

Now, for the first time there will be an *economically viable* method for cable system operators to provide their subscribers with a truly "subscriber friendly" signal security system, while avoiding costly set-top churn losses. Multichannel Communication Sciences, Inc. ("MCSI") a small high technology company in San Diego, California, has developed a proprietary digital technology, called Digital Broadband Descrambling ("DBD"), for simultaneous on-channel descrambling of a large number of TV signals, that at the same time leaves other channels unaltered and performs on-channel denial processing on still other unauthorized channels to securely deny those signals.

Unlike existing "one-channel-at-a-time" descrambling technologies, MCSI's DBD technology provides all authorized channels in the clear and thus will enable subscribers to enjoy their cable ready TVs and VCRs in a whole-house service. Hence, the subscribers would make full use of all the features they purchased in their consumer electronics equipment, including built-in VCR programming functions, remote controls, watching and recording from two different scrambled channels simultaneously or consecutively, and viewing multiple channels at once (picture-in-picture). All this is accomplished in a manner that is compatible with today's sync suppression scrambling formats, allowing MSO's who operate scrambled addressable systems to migrate to DBD technology in an economically graceful manner over a period of time of their choosing. Cable operators would realize substantial operation savings due to Pay services subscription lift, substantial reductions in service calls associated with home wiring, TV tuning and set-top descrambler churn. Furthermore, the DBD devices will pass into the home all other unprocessed channels including digital compression signals thereby allowing compatibility with future digital transmission. Figure 1 depicts a comparison of the typical interconnection required for conventional set-top descramblers versus MCSI's broadband multichannel descramblers. Figure 2(b) depicts the simultaneous broadband clear channel availability as compared with Figure 2(a) for a conventional single channel decoder.

While providing service to subscribers in a manner that is fully responsive to the recently enacted Cable Law, MCSI's technology will not only provide operator savings, but also introduce a strong service differentiation over competitive Telco or DBS video providers who will be unable to provide consumer-interface-friendly, "set-top-less" broadband service to the home. It should be emphasized that in the regulatory environments following the '92 Cable Law, in which Cable's programming exclusivity may no longer survive, Cable's intrinsic broadband simultaneous signal offering shall remain the only *sustainable* differentiating feature over other multichannel video competitors.